

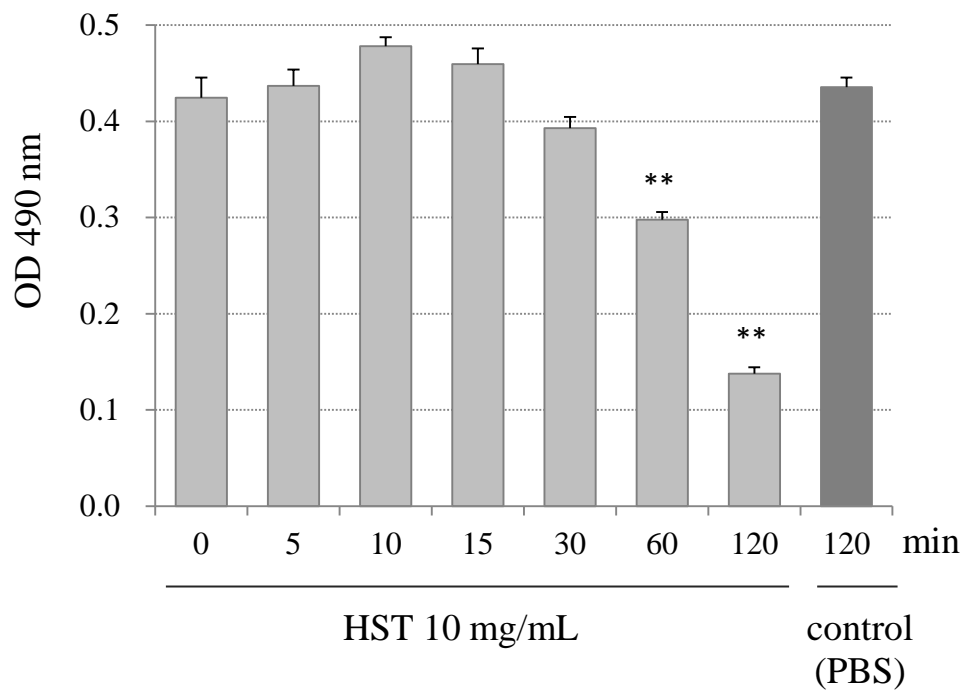
Supplementary Table 1 Bacterial strains and culture conditions

Bacterial strain	Culture medium	Culture condition
Gram-negative Oral Bacteria		
<i>Aggregatibacter actinomycetemcomitans</i> Y4	BHI H/M	Capneic
<i>Camphylobacter rectus</i> ATCC33238	BHI NaCl	Anaerobic
<i>Capnocytophaga ochracea</i> ATCC27282	BHI H/M	Anaerobic
<i>Fusobacterium nucleatum</i> ATCC25586	BHI H/M	Anaerobic
<i>Porphyromonas gingivalis</i> ATCC33277	BHI H/M	Anaerobic
<i>Porphyromonas gingivalis</i> 381	BHI H/M	Anaerobic
<i>Porphyromonas endodontalis</i> ATCC35406	BHI H/M	Anaerobic
<i>Prevotella intermedia</i> ATCC25611	BHI H/M	Anaerobic
<i>Prevotella melaninogenica</i> ATCC25845	BHI H/M	Anaerobic
<i>Tannerella forsythia</i> ATCC43037	TF medium	Anaerobic
<i>Treponema denticola</i> ATCC35405	GM-1	Anaerobic
<i>Veillonella parvula</i> ATCC17745	BHI H/M	Microaerobic
Gram-negative Bacteria		
<i>Bacteroides thetaiotaomicron</i> JCM5827	BHI H/M	Anaerobic
<i>Camphylobacter jejuni</i> ATCC29428	BHI NaCl	Microaerobic
<i>Escherichia coli</i> K12	THB	Aerobic
<i>Porphyromonas asaccharolytica</i> JCM6326	BHI H/M	Anaerobic
Gram-positive Oral Bacteria		
<i>Actinomyces viscosus</i> ATCC19246	THB	Capneic
<i>Enterococcus faecalis</i> 4532D	THB	Anaerobic
<i>Lactobacillus casei</i> JCM1133	THB	Anaerobic
<i>Streptococcus anginosus</i> IS57	THB	Anaerobic
<i>Streptococcus gordonii</i> ATCC10558	THB	Anaerobic
<i>Streptococcus mutans</i> 109c	THB	Anaerobic
<i>Streptococcus salivarius</i> JCM5707	THB	Anaerobic
Gram-positive Bacteria		
<i>Bacillus subtilis</i> ATCC9372	BHI H/M	Aerobic
<i>Bifidobacterium longum</i> JCM1222	THB	Anaerobic
<i>Staphyrococcus aureus</i> ATCC6738	THB	Aerobic
<i>Streptococcus pyogenes</i> ATCC12348	THB	Anaerobic
Fungus		
<i>Candida albicans</i> JCM2085	BHI	Aerobic

BHI H/M: brain-heart infusion broth with hemin (5 µg/ml) and menadione (5 µg/ml); GM-1: as described previously (Blakemore, 1976); TF medium: as described previously (Shimotahira, 2013); BHI NaCl: BHI containing 0.3% NaCl; THB: Todd Hewitt Broth. The anaerobic organisms were cultured anaerobically using an AnaeroPack-Anaero system (Mitsubishi Gas Chemical Company) at 37°C. The microaerobic organisms were cultured microaerobically using an AnaeroPack-MicroAero system at 37°C. The capneic organisms were cultured capneically using an AnaeroPack-CO2 system at 37°C.

Supplementary Table 2 List of crude drugs and their purified extracts

Crude drugs	Purified compound	Reference
<i>Scutellariae radix</i>	Baicalin	Kono, 2014
	Baicalein	Kono, 2014
	Wogonin	Kono, 2014
	Acteoside	Xie, 2002
<i>Coptidis rhizome</i>	Berberine chloride	Kono, 2014
	Coptisine	Kono, 2014
<i>Zingiberis siccatum rhizoma</i>	[6]-Shogaol	Kono, 2014
	[6]-Gingerol	Kono, 2014
<i>Glycyrrhizae radix</i>	Liquiritin	Kono, 2014
	Glycyrrhizic acid	Kono, 2014
<i>Ginseng radix</i>	Ginsenoside Rg1	Qian, 2009
	Ginsenoside Rb1	Qian, 2009
<i>Pinelliae tuber</i>	Corymboside	Wagner, 2011
	Homogentisic acid	Hatano, 1991
<i>Zizyphi fructus</i>	Cyclic AMP	Hanabusa, 1981



Supplementary Figure 1 Viability of human oral keratinocytes. We seeded 5×10^3 cells in 96-well plates and exposed them to 10 mg/ml HST extract for 0, 5, 10, 15, 30, 60, and 120 min. Cell viability was estimated by measuring MTS. Graph shows mean absorbance at 490 nm for the detection of MTS readings from a microplate reader. Error bars correspond to standard error. ** $P < 0.01$ vs. control by Dunnett's test.

References

- Blakemore, R. P., E. Canale-Parola (1976). Arginine catabolism by *Treponema denticola*. *J bacteriology* 128:616-622.
- Shimotahira N, Oogai Y, Kawada-Matsuo M, Yamada S, Fukutsuji K, Nagano K, Yoshimura F, Noguchi K, Komatsuzawa H (2013). The surface layer of *Tannerella forsythia* contributes to serum resistance and oral bacterial coaggregation. *Infect Immun.* 81:1198-206.
- Xie LH, Wang X, Basnet P, Matsunaga N, Yamaji S, Yang DY, Cai SQ, Tani T (2002). Evaluation of variation of acteoside and three major flavonoids in wild and cultivated *Scutellaria baicalensis* roots by micellar electrokinetic chromatography. *Chem Pharm Bull.* 50:896-9.
- Qian ZM, Lu J, Gao QP, Li SP (2009). Rapid method for simultaneous determination of flavonoid, saponins and polyacetylenes in folium ginseng and radix ginseng by pressurized liquid extraction and high-performance liquid chromatography coupled with diode array detection and mass spectrometry. *J Chromatogr A.* 1216:3825-30.
- Wagner H, Bauer R, Melchart D, Xiao PG, Staudinger A (2011). *Rhizoma Pinelliae — Banxia : Chromatographic Fingerprint Analysis of Herbal Medicines*, Springer Vienna, pp 71-81 DOI: 10.1007/978-3-7091-0763-8_7
- Hanabusa K, Cyong J, Takahashi M (1981). High-level of cyclic AMP in the jujube plum. *Planta Med.* 42:380-4.
- Hatano K, Shoyama Y, Nishioka I (1991). Cultivation studies on Clonally Propagated *Pinellia ternata*. *Shoyakugaku Zasshi* 45:203-205.
- Kono T, Kaneko A, Matsumoto C, Miyagi C, Ohbuchi K, Omiya Y, Mizuhara Y, Miyamo K, Uezono Y (2014). Multitargeted effect of hangeshashinto for treatment of chemotherapy-induced oral mucositis on inducible PGE2 production in human oral keratinocytes. *Integr Cancer Ther.* 13:435-45.